

REMARKS

Applicant appreciates the thorough examination of the application that is reflected in the Office Action dated March 1, 2004.

To expedite prosecution of this application, Applicant amends claims 1, 3, 5, 6, 8-12, 16-17, 19-21, 25-26, 28-29, and 31 to correct typographical errors and clarify wording. Applicant submits that these amendments are not made in response to any rejection set forth during prosecution of this patent application.

Applicant cancels claims 4, 13-15, and 22-24 without prejudice or disclaimer.

Applicant adds new claims 32-47.

Claims 1, 3, 5-12, 16-21, and 25-47 are pending in the application.

Applicant respectfully requests reconsideration of this application.

Art-Based Rejections

The Examiner rejects claims 1, 3, 5-12, 16-21, and 25-31 under 35 USC § 103(a) as being unpatentable over US Patent No. 4,281,408 to Bonnerot in view of US Patent No. 6,381,460 to Klein.

Applicant respectfully traverses these rejections for at least the following reasons.

Independent Claims 1, 12 and 21:

Claim 12 relates to a method of transmitting data components of forward link data in a communication system. The method requires:

transmitting a sync channel message on a single frequency channel within a predetermined set of frequency channels, wherein said sync channel message indicates one of a center frequency channel of a multi-channel system and a single channel system,

wherein the center frequency channel is used for reception of signals by a device receiving the sync channel message and is one of a set of a preferred frequency channels that correspond to a plurality of frequency bands that are arranged such that any combination of three adjacent bands includes the center frequency channel; and

transmitting remaining components of said forward link data on another frequency channel within said predetermined set of frequency channels.

In rejecting claim 12, the Office cites col. 3, lines 44-63 of the Bonnerot reference. This section of the Bonnerot reference discusses that:

The level control arrangement shown in FIG. 1 is arranged for controlling the level of a primary FDM group. This primary FDM group, which is applied to this control arrangement via the input 1 is formed by 12 speech signals and occupies the FDM-frequency band 60-108 kHz. In addition to speech signals this FDM group comprises a pilot signal located in the center of the FDM frequency band in an interval located between two consecutive channel signals. As mentioned above this pilot signal has a frequency of 84.140 kHz. As remarked above, a primary FDM group comprises a plurality of signalling signals each associated with a channel signal. If a so-called d.c. signalling is used, a signal having a very high level occurs in the frequency interval in which the pilot signal is located and with the frequency of 84 kHz, as well as several other signals, the signal having the highest level having a frequency which deviates 10 Hz from 84 kHz, whereas the other signals have frequencies which deviate from 84 kHz by multiples of 10 Hz. (Emphasis added.)

Bonnerot therefore teaches that "speech signals this FDM group comprises a pilot signal located in the center of the FDM frequency band in an interval located between two consecutive channel signals." Applicant submits, however, that there is no indication in Bonnerot that a sync channel message is transmitted on a single frequency channel within a predetermined set of frequency channels. Applicant submits that Klein is similarly deficient.

In addition, in rejecting claim 12, the Office concedes that the Bonnerot reference fails to teach or suggest that "sync channel message indicates at least a single carrier frequency of a single or multi-carrier subsystem." The Office then cites col. 7, lines 6-50 of Klein, which teaches, in part, that:

The message ac contains data relating to the frequency bands which can be evaluated by the mobile station MS, and relating to the requested bandwidth or the requested service, with the result that the base station controller BSC assigns a frequency band, in compliance with these requests and with the current capacity utilization of the available frequency bands in the radio cell. In this way the number d1 and the bandwidth d2 for the frequency channel are defined.

It is to be noted here that the signaling message sig1 contains either just one pair of values d1 and d2, so that the offset is permanently defined for the opposite transmission direction as in the GSM mobile radio system. However, it is possible as an alternative (FIG. 7b), also to signal separate values d1, d2 and d1', d2' for both transmission directions. If, as in FIG. 2, there is no consecutive numbering even between the frequency bands, the signaling message sig1 also contains data relating to the reference frequency fbez (FIG. 7c).

A further possibility consists in assigning a frequency channel just by the number d1 (FIG. 7d), in such a way that the bandwidth d2 of the frequency channel is defined (see FIG. 4). The data field of the reference frequency fbez is used here to signal the new assignment method within a known GSM message. The signaling messages sig1 can also be integrated within 10 bits of the known GSM messages. (Emphasis added.)

Applicant submits that nothing in the cited portion of the Klien reference discloses or suggests that the sync channel message indicates one of a center frequency channel of a multi-channel system and a single channel system, much less that “the center frequency channel is used for reception of signals by a device receiving the sync channel message,” as required by claim 12

Thus, Applicant submits that the cited references also fail to teach or suggest, for example, “transmitting a sync channel message on a single frequency channel within a predetermined set of frequency channels, wherein said sync channel message indicates one of a center frequency channel of a multi-channel system and a single channel system, wherein the center frequency channel is used for reception of signals by a device receiving the sync channel message,” as required by claim 12.

In addition, while Applicant acknowledges that the Bonnerot teaches “a primary FDM group comprises a plurality of signaling signals each associated with a channel signal,” Applicant submits, however, that there is no indication in Bonnerot that the center frequency channel is one of a set of a preferred frequency channels that correspond to a plurality of frequency bands that are arranged such that any combination of three adjacent bands includes the center frequency channel. Applicant submits that the Klien reference is similarly deficient. Thus, Applicant submits that the cited references fail to teach or suggest, for example, that the center frequency channel “is one of a set of a preferred frequency channels that correspond to a plurality of frequency bands that are arranged such that any combination of three adjacent bands includes the center frequency channel,” as required by claim 12.

For at least the foregoing reasons, Applicant submits that claim 12 is patentable of over the cited references. In addition, Applicant respectfully submits that dependent claims 16-18 are separately patentable at least by virtue of their dependency from independent claim 12, and also because those claims recite additional features that are not taught or suggested by the cited references.

For at least the reasons noted above with respect to claim 12, Applicant submits that independent claims 1 and 21 are patentable over the cited references. In addition, Applicant respectfully submits that dependent claims 3, 5-7, and 25-27 are separately patentable at least by virtue of their dependency from independent claims 1 and 21, and also because those claims recite additional features that are not taught or suggested by the cited references, respectively.

Independent Claims 8, 19 and 28:

Claim 19 relates to a method of receiving data components of forward link data in a communication system. The method requires:

- receiving a sync channel message and a first portion of a multi-channel signal on a single frequency channel, wherein said sync channel message indicates one of a center frequency channel of a multi-channel system and a single channel system,

- wherein the center frequency channel is used for reception of signals and is one of a set of a preferred frequency channels that correspond to a plurality of frequency bands that are arranged such that any combination of three adjacent bands includes the center frequency channel;

- controlling operation of a plurality of receiver subsystems in accordance with frequency information indicated in said received sync channel message; and

- receiving additional portions of said multi-frequency channel signal on another frequency channel.

Applicant submits that the cited references fail to teach or suggest, for example, “receiving a sync channel message and a first portion of a multi-channel signal on a single frequency channel, wherein said sync channel message indicates one of a center frequency channel of a multi-channel system and a single channel system, wherein the center frequency channel is used for reception of signals and is one of a set of a preferred frequency channels that correspond to the plurality of frequency bands that are arranged such that any combination of three adjacent bands includes the center frequency channel,” as required by claim 19.

Bonnerot teaches a level control arrangement for controlling the level of a primary FDM group. Applicant acknowledges that Bonnerot teaches a primary FDM group formed by 12 speech signals and a pilot signal located in the center of the FDM frequency band in an interval located between two consecutive channel signals. The primary FDM group also comprises a plurality of signalling signals each associated with a channel signal.

By contrast, claim 19 requires, for example, that the sync channel message indicates one of a center frequency channel of a multi-channel system and a single channel system. The center frequency channel is used for reception of signals, and is one of a set of a preferred frequency channels that correspond to the plurality of frequency bands that are arranged such that any combination of three adjacent bands includes the center frequency channel. Applicant submits, however, that there is no indication in Bonnerot of at least the above limitations of claim 19. Applicant submits that the Klien reference is similarly deficient. Thus, Applicant submits that the cited references fail to teach or suggest, for example, “receiving a sync channel message and a first portion of a multi-channel signal on a single frequency channel, wherein said sync channel message indicates one of a center frequency channel of a multi-channel system and a single channel system, wherein the center frequency channel is used for reception of signals, wherein the center frequency channel is one of a set of a preferred frequency channels that correspond to the plurality of frequency bands that are arranged such that any combination of three adjacent bands includes the center frequency channel,” as required by claim 19

For at least the foregoing reasons, Applicant submits that claim 19 is patentable of over the cited references. In addition, Applicant respectfully submits that dependent claim 20 is separately patentable at least by virtue of their dependency from independent claim 19, and also because those claims recite additional features that are not taught or suggested by the cited references.

For at least the reasons noted above with respect to claim 19, Applicant submits that independent claims 8 and 28 are patentable of over the cited references. In addition, Applicant respectfully submits that dependent claims 9-11 and 29-31 are separately patentable at least by virtue of their dependency from independent claims 1 and 28, and also because those claims recite additional features that are not taught or suggested by the cited references, respectively.

New claims 32-47

Applicant adds new claims 32-47 by this amendment.

New claim 32 relates to an apparatus operable in at least one of a single carrier system and a multi-carrier system. New claim 32 is supported, for example, by FIG. 5 and the related portion of the specification. To assist the Examiner in understanding how claim 32 reads on the

embodiment shown in FIG. 5, Applicant annotates claim 32 below. Applicant notes that the claims should not be construed as being limited to or by this embodiment. Claim 32 requires:

- a demultiplexer (50) that demultiplexes a forward link signal (32) into a forward link data stream comprising broadcast channel data including a synch channel message;

- a first transmission subsystem (48A), coupled to the demultiplexer, that transmits a first portion of the forward link data stream on a first carrier frequency;

- a second transmission subsystem (48B), coupled to the demultiplexer, that transmits a second portion of the forward link data stream on a second carrier frequency; and

- a third transmission subsystem (48C), coupled to the demultiplexer, that transmits a third portion of the forward link data stream on a third carrier frequency,

- wherein the synch channel message is transmitted on a preferred channel by a selected one of the first, second and third transmission subsystems (48) for transmission at a selected one of the first, second and third carrier frequencies.


Applicant submits that the cited references fail to teach or suggest all limitations of claim 32. In addition, Applicant respectfully submits that dependent claims 33-48 are separately patentable at least by virtue of their dependency from independent claim 32, and also because those claims recite additional features that are not taught or suggested by the cited references.

REQUEST FOR ALLOWANCE

In view of the foregoing, Applicant submits that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

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